

REMARKS

[0002] Applicant respectfully requests reconsideration and allowance of all of the claims of the application. The status of the claims is as follows:

- Claims 20-22 and 33-53 are currently pending
- Claims 20, 21, 33, 36, 37, 39, 40, 42-44, and 46-51 are amended herein

The amendments to the claims are all fully supported by the specification, and therefore do not constitute new matter.

Drawing Objections

[0003] The drawings are objected to as allegedly not showing every feature of the invention specified in the claims. Claim 20 is amended herein, rendering this objection moot. Accordingly, Applicant respectfully requests that the objection to the drawings be withdrawn.

Allowable Subject Matter

[0004] The Office Action indicates that claims 20-22, 33-41, and 48-50 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. 112, 2nd paragraph. (Office Action, page 8.) Applicant would like to thank the Examiner for indicating the allowability of these claims. These claims have been amended herein, and are therefore in condition for allowance.

Claims 20-22 and 33-53 Comply With § 112 2nd Paragraph

[0005] Claims 20-22 and 33-53 stand rejected under 35 U.S.C. § 112, ¶ 2, as allegedly being indefinite. Applicant respectfully traverses this rejection.

[0006] Nevertheless, for the sole purpose of expediting prosecution and without acquiescing in the propriety of the Office's rejections, Applicant herein amends claims 20, 21, 33, 36, 37, 39, 40, 42-44, 46- 51 as shown above. Applicant respectfully submits that these amendments render the § 112, ¶ 2 rejections moot.

Cited Documents

[0007] The following documents have been applied to reject one or more claims of the Application:

- **Sala:** Sala, et al., U.S. Patent No. 7,333,495
- **Laursen:** Laursen, et al., U.S. Patent No. 5,805,804
- **Dugad:** Dugad, et al., U.S. Patent No. 7,382,755
- **Hempel:** Hempel, U.S. Patent No. 7,464,380

Claims 42, 43, 45, and 46 Are Non-Obvious Over Sala in view of Laursen

[0008] Claims 42, 43, 45, and 46 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Sala in view of Laursen. Applicant respectfully traverses the rejection.

Independent Claims 42 and 46

[0009] In light of the amendments presented herein, Applicant submits that the rejection of independent claims 42 and 46 is moot. Specifically, the combination of Sala and Laursen does not teach or suggest the following features of these claims, as amended (with emphasis added):

Claim 42:

A system, comprising:
means for receiving a request from an application, the request to be transmitted to a particular client device;
means for queuing the request for transmission over a **downstream** network path based on identification of an **upstream** network path over which a response to the request may be received; and
means for scheduling transmission of the request based on an available **upstream** network bandwidth.

Claim 46:

One or more computer-readable storage media comprising computer-executable instructions that, when executed, direct a computing system to perform a method comprising:
receiving a request;
identifying an upstream network path associated with the request;
queuing the request for transmission over a **downstream** network path based on the **upstream** network path that was identified; and
scheduling the request for transmission based on an available bandwidth associated with the **upstream** network path.

[0010] The Office cites a “request queue” and a “downstream scheduler” of Sala as teaching these elements. (Office Action, page 5.) Sala describes a system for

scheduling transmissions from a plurality of services operating over a widely distributed communications network in which a headend communications device functions as an arbitrator of bandwidth among a plurality of cable modems configured for bi-directional communications.

[0011] There is no teaching or suggestion in Sala or Laursen, alone or in combination, of queuing a request for transmission over a downstream network path based on identification of an upstream network path over which a response to the request may be received. Furthermore, there is no teaching or suggestion of scheduling transmission [over a downstream network path] of the request based on an available upstream network bandwidth.

[0012] In contrast, Sala appears to describe a system in which, in response to a request to send a downstream transmission, downstream bandwidth is analyzed and allocated. There is no teaching or suggestion of scheduling downstream transmissions based on a available upstream bandwidth.

[0013] Consequently, the combination of Sala and Laursen does not teach or suggest all of the elements and features of these claims. Accordingly, Applicant respectfully requests that the rejection of these claims be withdrawn.

Dependent Claims 43 and 45

[0014] Claims 43 and 45 ultimately depend from independent claim 42. As discussed above, claim 42 is allowable over the cited documents. Therefore, claims 43 and 45 are also allowable over the cited documents of record for at least their dependency from an allowable base claim. These claims may also be allowable for the additional features that each recites.

Claims 44 and 47 Are Non-Obvious Over Sala in view of Laursen and further in view of Dugad

[0015] Claims 44 and 47 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Sala in view of Laursen and further in view of Dugad. Applicant respectfully traverses the rejection.

Dependent Claim 44

[0016] Claim 44 ultimately depends from independent claim 42. As discussed above, claim 42 is allowable over the cited documents. Therefore, dependent claim 44 is also allowable over the cited documents of record for at least its dependency on an allowable base claim. Additionally, this claim may also be allowable for the additional features that it recites.

Independent Claim 47

[0017] In light of the amendments presented herein, Applicant submits that the rejection of independent claim 47 is moot. Specifically, the combination of Sala, Laursen, and Dugad does not teach or suggest the following features of this claims, as amended (with emphasis added):

One or more computer-readable storage media comprising computer-executable instructions that, when executed, direct a computing system to perform a method comprising:

receiving a request;

identifying a client device to which the request is to be transmitted;

identifying an upstream network path associated with the client device;

identifying one or more other client devices that are associated with the upstream network path;

queuing the request for transmission over a downstream network path based on the upstream network path that was identified; and

scheduling the request for transmission based on a number of the one or more other client devices to which pending requests have been transmitted.

[0018] As amended, claim 47 recites features similar to those recited in, and discussed above with reference to, claim 42.

[0019] There is no teaching or suggestion in Sala, Laursen, or Dugad, alone or in combination, of queuing a request for transmission over a downstream network path based on an identified upstream network path associated with the client device to which the request is to be transmitted.

[0020] In contrast, Sala appears to describe a system in which, in response to a request to send a downstream transmission, downstream bandwidth is analyzed and allocated. There is no teaching or suggestion of scheduling downstream transmissions based on a available upstream bandwidth. Neither Laursen nor Dugad add to the teaching of Sala in this regard.

[0021] Consequently, the combination of Sala, Laursen, and Dugad does not teach or suggest all of the elements and features of this claim. Accordingly, Applicant respectfully requests that the rejection of this claim be withdrawn.

Claims 51-53 Are Non-Obvious Over Hempel

[0022] Claims 51-53 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Hempel. Applicant respectfully traverses the rejection.

Independent Claim 51

[0023] In light of the amendments presented herein, Applicant submits that the rejection of independent claim 51 is moot. Specifically, Hempel does not teach or suggest the following features of claim 51, as amended (emphasis added):

One or more computer-readable storage media comprising computer-executable instructions that, when executed, direct a computing system to perform a method comprising:

scheduling requests for transmission, wherein the scheduling is performed at a scheduling interval by placing the requests in a dispatch queue, the scheduling interval defined by a particular value;

determining a number of requests in the dispatch queue; and

in an event that the number of requests in the dispatch queue is greater than or equal to a maximum number of allowed pending requests, preventing additional requests from being scheduled for transmission until the number of requests in the dispatch queue is less than the maximum number of allowed pending requests.

[0024] Claim 51 recites in part, “the scheduling is performed at a scheduling interval...the scheduling interval defined by a particular value.” In contrast, Hempel describes a system in which, “Whenever one of the instruction processors becomes available for assignment of a new task, it first queries the scheduling queue of its assigned cluster. If that scheduling queue contains one or more requests for execution, the next is assigned to the requesting instruction processor on a LIFO basis.” As such, according to Hempel, tasks are assigned from a scheduling queue based on requests for tasks – the scheduling is not “performed at a scheduling interval...the scheduling interval defined by a particular value,” as recited in claim 51, as amended.

[0025] Consequently, Hempel does not teach or suggest all of the elements and features of this claim. Accordingly, Applicant respectfully requests that the rejection of this claim be withdrawn.

Dependent Claims 52 and 53

[0026] Claims 52 and 53 ultimately depend from independent claim 51. As discussed above, claim 51 is allowable over the cited documents. Therefore, claims 52 and 53 are also allowable over the cited documents of record for at least their dependency from an allowable base claim. These claims may also be allowable for the additional features that each recites.

Conclusion

[0027] Applicant respectfully requests reconsideration and prompt issuance of the application. If any issues remain that prevent issuance of this application, the Examiner is urged to contact the undersigned representative for the Applicant before issuing a subsequent Action.

Respectfully Submitted,

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Representative for Applicant

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